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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,969	02/09/2004	Patrick Benedict Usoro	GP-302194 (GM0292PUSD)	5568
7590 04/29/2005 Kathryn A. Marra, Esq. General Motors Corporation Legal Staff MC 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			EXAMINER HO, HA DINH	
			ART UNIT 3681	PAPER NUMBER
DATE MAILED: 04/29/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/774,969

Applicant(s)

USORO ET AL.

Examiner

Ha D. Ho

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3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27,28,30-34,36,37,39,40 and 44 is/are rejected.
- 7) ☒ Claim(s) 29,35,38 and 41-43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/9/04</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This is the first Office Action on the merits of Application No. 10/774,969 filed on 02/09/04.
2. Receipt is acknowledged of the Preliminary Amendment filed on 04/07/05. Claims 1-26 have been canceled, and new claims 27-44 have been added accordingly. Claims 27-44 are currently pending.
3. In order for the amendment document to be compliant, Applicant is reminded to indicate the status of every claim after its claim number by using the status identifiers. Note that the canceled claims 1-26 should be indicated as “ 1-26. (Canceled)”.

### ***Claim Objections***

4. Claims 28-32 and 34-40 are objected to because of the following informalities:
  - Claim 28, line 1, “a first” should be changed to --the first--.
  - Claim 28, line 3, “a first” should be changed to --the first--.
  - Claim 28, line 3, “a second” should be changed to --the second--.
  - Claim 29, line 1, “a third” should be changed to --the third--.
  - Claim 29, line 3, “a first” should be changed to --the first--.
  - Claim 30, line 1, “a fifth” should be changed to --the fifth--.
  - Claim 31, line 1, “a seventh” should be changed to --the seventh --.
  - Claim 32, line 1, “an eighth” should be changed to --the eighth --.
  - Claim 34, line 1, “a first” should be changed to --the first--.

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- Claim 34, line 3, “a first” should be changed to --the first--.
- Claim 34, line 3, “a second” should be changed to --the second--.
- Claim 35, line 1, “a third” should be changed to --the third--.
- Claim 35, line 3, “a” should be changed to --the--.
- Claim 36, line 1, “a sixth” should be changed to --the sixth--.
- Claim 37, line 1, “an eighth” should be changed to --the eighth--.
- Claim 38, line 1, “a tenth” should be changed to --the tenth--.
- Claim 39, line 3, --the-- should be inserted after “wherein”.
- Claim 39, line 4, “type” should be changed to --carriers--.
- Claim 40, line 3, --the-- should be inserted after “wherein”.
- Claim 40, line 4, “type” should be changed to --carriers--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 27, 28, 30-34, 36, 37, 39 and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US 4,963,124).

Regarding claims 27, Takahashi et al teach a multi-speed transmission (see Fig. 3) comprising:

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an input shaft 14;

an output shaft 32;

a stationary member 12;

first 18, second 16 and third 20 planetary gear sets each having first, second and third members members;

a first C2 and second C1 input clutches connected with the input shaft 14;

the second member 16r of the second planetary gear set 16 being continuously connected with the second input clutch C1;

a first interconnecting member (the connection between 16p and 20s) continuously interconnecting a member 16p of the second planetary gear set 16 with a member 20s of the third planetary gear set 20; and

nine torque-transmitting (C3, C4, B1-4 and F1-3) mechanisms being engaged in combinations of at least three to establish at least five forward speed ratios and a reverse speed ratio between the input shaft and the output shaft (see Fig. 4).

Regarding claims 28 and 34, wherein the first C4 and second C3 of the nine torque-transmitting mechanisms are selectively operable for interconnecting the first member 18c and the second member 18s of the first planetary gear set 18, respectively, with the first input clutch C2.

Regarding claim 31, wherein the seventh B2 of the nine torque-transmitting mechanisms is selectively operable for interconnecting a member 18c of the first planetary gear set 18 with the stationary member 12.

Regarding claim 32, wherein the eighth B2 and ninth B1 of the nine torque-transmitting mechanisms are selectively operable for interconnecting members (20r, 20c) of the third planetary gear set 20 with the stationary member 12.

Regarding claim 33, a tenth torque-transmitting mechanism (the connecting member between 18c and 20r).

Regarding claim 37, wherein the eighth B2 and ninth C3 of the nine torque-transmitting mechanisms are selectively operable for interconnecting members (18c, 18s) of the first planetary gear set 18 with the stationary member 12.

Regarding claim 39, wherein the first to third members of the planetary gear sets comprise a sun gear member, a ring gear member and a planet carrier assembly member, and wherein the planet carrier assembly members are of the single pinion carriers.

Regarding claim 44, wherein selected ones of the ten torque-transmitting mechanism are engaged prior to gear shifting to achieve shifting without torque interruptions.

Regarding claims 27, 30 and 36, the interpretation of the first planetary gear set is 20, second planetary gear set is 16, third planetary gear set is 18, the first input clutch is C1, second input clutch is C2, the second member of the second planetary gear set is 16s, and the first interconnecting member is the connecting member between 16c and 18r, wherein the fifth C4 and sixth C3 (or sixth C4 and seventh C3 as recited in claim 36) of the nine torque-transmitting mechanisms are selectively operable for interconnecting members (16c, 16p) of the second planetary gear set 16 with members (18c, 18s) of the third planetary gear set 18.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US 4,963,124) in view of Hattori (US 5,133,697).

Takahashi et al do not teach the planet carrier assembly members of a plurality of the planetary gear set being the double pinion carriers.

Hattori teaches a multi-speed transmission that has the planet carrier assembly members of a plurality of the planetary gear set being the double pinion carriers (see Fig. 1).

It would have been an obvious matter of design choice to one of ordinary skill in the art at the time the invention was made to modify the transmission of Takahashi et al to have the planet carrier assembly members of a plurality of the planetary gear set being the double pinion carriers in view of Hattori, since the transmission having the planet carrier assembly members being the double pinion carriers is old and well known in the art.

***Allowable Subject Matter***

9. Claims 29, 35, 38 and 41-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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***Cited Prior Art***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Pearce et al.'473, Gaus'925, Asada'232, Asada'354, Park'838, Asada'844, and Sugano et al.'442 which each shows a multi-speed transmission having at least three planetary gear sets, and a plurality of clutches/brakes for establishing at least 5 forward and one reverse speeds.

***Communication***

11. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9326 for regular communications and (703) 872-9327 for After Final communications. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P. 512). The following is an example of the format the certification might take:

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(Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after



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your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is 571-272-7091. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HDH  
(703) 305-0738  
April 26, 2005

*Ha D. Ho*  
**HAHO**  
**PRIMARY EXAMINER**  
Art Unit 3681 *4/26/05*